



NTSB National Transportation Safety Board

Transferability of Aviation Mishap Investigation Process to Healthcare?

Presentation to:

Human Factors in Healthcare

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NTSB 101

- The NTSB investigates to determine probable cause(s) and make recommendations to prevent recurrences (in all transportation modes)
- NTSB is an “independent” agency, in order to assure that investigation is *objective and unbiased*
- Five NTSB Members, nominated by the President, confirmed by the Senate
 - Safeguards re independence
 - Conclusions from facts, not politics



First Phase: Gathering the Facts

- NTSB is very small (<400 employees), relies heavily on parties to develop the facts
- NTSB selects parties for their ability to provide *technical* expertise
 - No attorneys/insurers
 - No plaintiffs/representatives
- Facts are placed in a public docket
[Compare military accident investigations]
- Important characteristic of the process:
Transparency



Second Phase: Analysis

- Analysis, conclusions, and determination of probable cause are done solely by NTSB; parties do not assist**
- Parties are free to submit their own analysis into the public docket**
- Analysis is in public docket, but not admissible in court**



Outcome of Investigations

- Determination of probable cause(s)

- Objective is to determine *cause*,
not liability or blame

- ***SINGLE FOCUS IS SAFETY***

- Primary product:

- Safety recommendations to whomever can
take corrective action on the matter

- Recommendation acceptance rate:
More than 80%



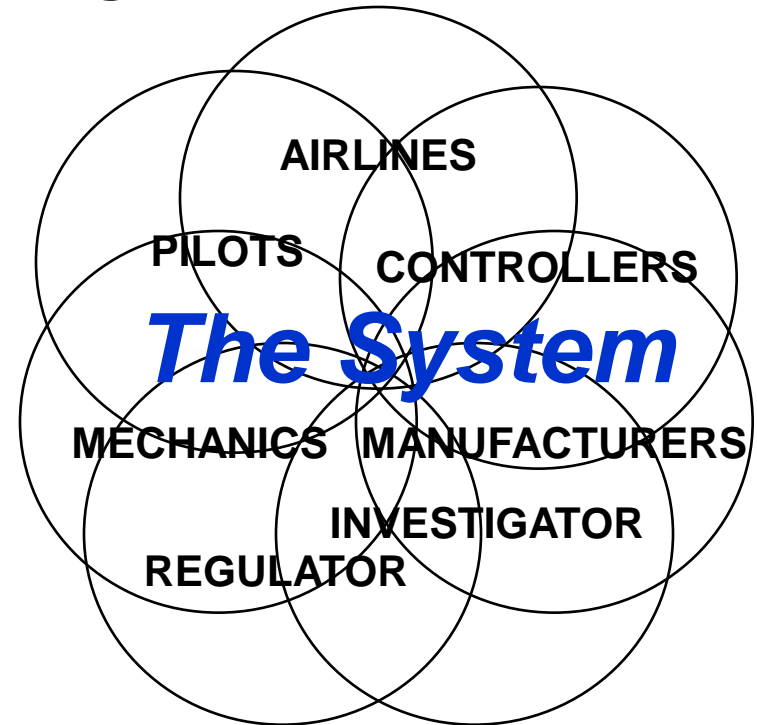
Suggested Healthcare Alternative

- Aviation mishap investigation process may be inappropriate re large number of events
- **Suggestion:** Rather than focusing on individual mishaps, start by selecting most troublesome issues or trends
 - Nagging problem over the years
 - Many interventions have been tried, not successful
 - Likelihood that problems are systemic, not just people
 - Need process that focuses on fixing (system problems) rather than punishing
 - Staff less defensive, more cooperative, because process is
 - Not focused on single event, and
 - Focused on fixing rather than punishing
- **Collaborative process – select investigation team**
 - All who have a hand in the process
 - Manufacturers?
 - Regulators?



Aviation Collaborative Process (CAST)

- Engage All Participants In Identifying Problems and Developing and Evaluating Remedies
- Airlines
- Manufacturers
 - *With the systemwide effort*
 - *With their own end users*
- Air Traffic Organizations
- Labor
 - *Pilots*
 - *Mechanics*
 - *Air traffic controllers*
- Regulator(s)



Benefits of Collaborative Process

- The process considers everyone's interests
- All of the participants are on board with the result
- The interventions are probably more effective and efficient
- Aviation experience has demonstrated that a collaborative process can improve not only safety *(65% reduction in fatal accident rate in 10 years!)*, but also productivity at the same time
- In complex systems, collaboration greatly reduces the likelihood that changes will cause unintended consequences



Some Process Issues

- **Ability of investigation team to be objective and unbiased?**
 - **Who leads team?**
 - **Who pays for team?**
- **Ability to protect information sources from punishment (absent criminal or intentional wrongdoing)?**
- **Inclusion of manufacturers?**
- **Inclusion of regulator(s)?**
- **Inclusion of patient representatives?**
- **Information available to litigants? Admissibility of information in litigation?**
- **Information available to public?**



Conclusion

- System problems generally necessitate system solutions
- System problems cannot be solved effectively unless
 - The process is objective and unbiased, and
 - The focus is on fixing rather than punishing
- Collaboration can facilitate the identification and solution of system problems in complex systems
- To paraphrase James Reason, you can either *swat mosquitoes forever or drain the swamp*



Thank You!!!



Questions?